Attachment: Listing the Claims Presently Under Consideration

ADENOVIRUS VECTORS CONTAINING CELL STATUS-SPECIFIC RESPONSE ELEMENTS AND METHODS OF USE THEREOF
Inventors: De Chao YU and Daniel R. HENDERSON

1. (Once Amended) A replication-competent adenovirus vector comprising an adenovirus gene essential for replication under transcriptional control of a cell status-specific transcriptional regulatory element (TRE).

2. The adenovirus vector of claim 1, wherein the adenovirus gene is essential for viral replication.

3. The adenovirus vector of claim 2, wherein the adenovirus gene is an early gene.

4. The adenovirus vector of claim 2, wherein the adenovirus gene is a late gene.

5. The adenovirus vector of claim 3, wherein the adenovirus early gene is E1A.

6. The adenovirus vector of claim 3, wherein the adenovirus early gene is E1B.

7. The adenovirus vector of claim 3, wherein the adenovirus early gene is E4.

8. The adenovirus vector of claim 1, wherein the cell status-specific TRE is human.

9. The adenovirus vector of claim 1, wherein the cell status-specific TRE comprises a hypoxia responsive element (HRE).

10. The adenovirus vector of claim 9, wherein the HRE comprises SEQ ID NO:1.

11. The adenovirus vector of claim 1, wherein the cell status-specific TRE comprises a cell cycle specific element.

12. The adenovirus vector of claim 11, wherein the cell cycle-specific element is from the E2F-1 gene.

13. The adenovirus vector of claim 1, wherein the cell status-specific TRE comprises a heat-inducible element.

14. The adenovirus vector of claim 1, further comprising a cell type-specific TRE.

15. The adenovirus vector of claim 14, wherein the cell type-specific TRE is prostate cell specific.

16. The adenovirus vector of claim 15, wherein the prostate cell-specific TRE is a *PSA*-TRE.

17. The adenovirus vector of claim 1, further comprising a transgene under transcriptional control of a second cell status-specific TRE.

18. (Once Amended) An adenovirus vector comprising an adenovirus gene under transcriptional control of a TRE comprising a cell status-specific TRE and a cell-type specific TRE.

19 The adenovirus vector of claim 18, wherein the adenovirus gene is an early gene.

20. The adenovirus vector of claim 19, wherein the adenovirus early gene is E1A.

21. The adenovirus vector of claim 20, wherein the cell status-specific TRE comprises an HRE and the cell-type specific TRE is a PSA-TRE.

22. The adenovirus vector of claim 21, wherein the HRE comprises SEQ ID NO:1 and the PSA-TRE comprises nucleotides about 503 to about 2086 of SEQ ID NO:3 and nucleotides about 5285 to about 5836 of SEQ ID NO:3.

23. A composition comprising an adenovirus vector of claim 1.

24. The composition of claim 23, further comprising a pharmaceutically acceptable excipient.

25. A host cell comprising the adenovirus vector of claim 1.

26. A method of propagating adenovirus specific for cells which allow a cell status-specific TRE to function, said method comprising combining an adenovirus according to claim 1 with the cells, whereby said adenovirus is propagated.

27. A method for conferring selective cytotoxicity on a target cell, said method comprising contacting a cell which allows a cell status-specific TRE to function with an adenovirus vector of claim 1, whereby the vector enters the cell.

28. A method for suppressing tumor growth comprising introducing the adenovirus vector of claim 1 into a tumor cell which allows a cell status-specific TRE to function, wherein introduction of the adenovirus vector results in suppression of tumor growth.

29. (New) The cell status specific TRE of claim 1 that comprises a cell status specific promoter.

30. (New) The cell status specific TRE of claim 1 that comprises a cell status specific enhancer.

31. (New) The cell status specific TRE of claim 1 that comprises a cell status specific promoter and a cell status specific enhancer.